

Curriculum Vitae

David M. Sabatini

Whitehead Institute for Biomedical Research
MIT Department of Biology
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PERSONAL

Born: January 27, 1968 New York, New York, USA
Married: to Valentina Nardi, M.D.

EDUCATION

Riverdale Country Day School
Graduate cum laude, 1986

Brown University
B.S. Biological Sciences (Biology), magna cum laude, 1990

Johns Hopkins University School of Medicine
M.D./Ph.D. Received in 1997
Thesis: Control of Translation by a Novel, Rapamycin-sensitive Signaling Pathway
Advisor: Dr. Solomon H. Snyder, Department of Neuroscience

PRIMARY FACULTY/FELLOW APPOINTMENTS

Whitehead Institute for Biomedical Research, Cambridge, MA
Whitehead Fellow, Oct. 1997-Sept. 2002
Member, 2002-present
Massachusetts Institute of Technology, Department of Biology, Cambridge, MA
Assistant Professor, 2002-2005
Associate Professor, 2006-2007
Associate Professor with Tenure, 2008-present
Howard Hughes Medical Institute
Investigator, 2008-present

OTHER APPOINTMENTS

Broad Institute of Harvard and MIT, Cambridge, MA
Senior Associate Member, 2004-present

Koch Center for Integrative Cancer Research at MIT, Cambridge, MA

Member 2004-present

AWARDS AND FELLOWSHIPS

2005, David H. Koch Cancer Research Fellowship
2005, W. M. Keck Foundation Distinguished Young Scholars in Medical Research Fellowship
2005, Howard S. Stern and Linda B. Stern Career Development Professorship
2004, Rita Allen Fellowship
2003, Charles Ross Scholar Award, Massachusetts Institute of Technology
2003, Pew Scholar in the Biomedical Sciences
2003, Edith C. Blum Foundation Award
2002, Technology Review TR100 Young Innovator's Award, awarded by *Tech Review* magazine
1999, Skeggs Fellow, Whitehead Institute
1997, Michael A. Shanoff Award for Thesis Research, Johns Hopkins University School of Medicine
1990-1997, Medical Scientist Training Program Award
1994, Franklin P. Mall anatomy prize, Department of Cell Biology and Anatomy, Johns Hopkins University School of Medicine
1990, Honors, Biology Department, Brown University
1990, Sigma Chi Society

FUNDED GRANTS

“Regulation of the mTOR Growth Pathway by Nutrients”

National Institutes of Health Grant 1 RO1 CA103866

P.I. David M. Sabatini

Dates: March 2004 – June 2014

The goal of this award is to identify the molecular mechanisms through which the mTORC1 pathway senses nutrients by controlling the interaction between mTOR and raptor.

“Cell Growth Signaling in Cancer Development”

National Institutes of Health Grant 1 RO1 CA129105

P.I. David M. Sabatini

Dates: April 2008 – January 2013

The goal of this award is to study growth control in cancer.

“Rapamycin-Insensitive Signaling by Rictor-mTOR”

National Institutes of Health Grant 1 R01 AI047389

P.I. David M. Sabatini

Dates: April 2005 - March 2010

The goals of this grant are to identify the components of the mTORC2 pathway and to understand its role in the tumorigenesis driven by the loss of the PTEN tumor suppressor.

“Metabolism and Phosphatase Regulation of the TOR Pathway”

National Institutes of Health Grant 1 RO1 GM072555

P.I. David M. Sabatini

Dates: April 2005 – December 2009

The major goals of this project are to understand how nutrients regulate the mTORC1 pathway and to identify a hypothesized phosphatase that negatively regulates mTOR.

“Structural and Mechanistic Analyses of the TSC1/2 and Rheb-Mediated Regulation of the mTOR Pathway”

DOD TSC Research Program Grant

P.I. David M. Sabatini

Dates: July 2007 - June 2010

The goals of this grant are to determine the structure by cryo-electron microscopy of mTORC1 and to understand the role of raptor phosphorylation in the regulation of the pathway.

“Regulatory Networks in Cancer Initiation & Progression” (RNAi Interference Core)

NIH (Subcontract)

PI: Lauffenburger

Dates: September 2006 - August 2009

The goal of this subcontract is to provide automated image analysis software using Cellprofiler software which was designed and implemented in the Sabatini Laboratory.

“Mammalian Target of Rapamycin (mTOR) Signaling in Health and Longevity”

Julie Martin Mid-Career American Federation for Aging

Dates: July 2009 – June 2013

The goal of this project is to better understand the effects of decreased mTOR signaling on mammalian health and aging.

“Identification of the Metabolic Adaptations that Allow Tumor Cells to Survive in Poorly-Vascularized Environments and Understanding their Roles in Tumorigenesis”

W.M. Keck Foundation

P.I. David M. Sabatini

Dates: July 2005 – June 2010

The major goal of this project is to identify the metabolic adaptations tumor cells use to survive in the poor-vascularized tumor environment and to understand the role of these adaptations in tumorigenesis.

“Development of a Chemostatic Cell Culture System to Study Cancer Cell Metabolism”

Stewart Trust Foundation

P.I. David M. Sabatini

Dates: July 2009 – June 2010

The goal of this project is to use a chemostatic system that to study the continuous culture of cancer cells under hypoxia as well as low but constant levels of important nutrients.

“Identification of the Molecular Drivers of Brain Tumor Stem Cell Functions”

National Brain Tumor Foundation

P.I. David M. Sabatini

Dates: May 2007 - April 2008

This is a pilot grant to set up an RNAi screen for ‘stemness’ genes in brain cancer stem cells.

“Role of Metabolic Signaling Pathways in Early Breast Tumor Development”

Stewart Trust Foundation

P.I. David M. Sabatini

Dates: July 2007 - June 2008

This is a pilot grant to set up a model system using tumor xenografts to study the mechanisms through which caloric restriction reduces tumorigenesis.

“Role of Metabolic Signaling Pathways in Early Breast Tumor Formation and Sensitivity to Calorie Restriction”

David H. Koch Cancer Research Fund

P.I. David M. Sabatini

Dates: July 2007 - May 2008

The goals of this grant are to characterize the differential sensitivities of different cancer cell lines to extracellular growth factors and nutrients in vitro. The influence of calorie restriction will then be assessed on the growth of different tumors in orthotopic/subcutaneous mouse models. From here we will be able to identify the signaling pathways that confer sensitivity of tumor cells to systemic energy status.

“High Throughput Experiments to Discover Novel Drug Target for the Treatment of Tuberous Sclerosis Complex”

DOD TSC Research Program Grant W81XWH-05-1-0318-DS

P.I. David M. Sabatini

Dates: January 2004 - June 2007

The goal of this research is to conduct genome-wide RNA interference experiments in *Drosophila* to identify genes which cause only cells deficient in TSC1 or TSC2 function to arrest, die, or revert to normal without disrupting normal remaining cells.

“Nutrient Signaling to the mTOR Growth Pathway”

Pew Scholars Program in the Biomedical Science

P.I. David M. Sabatini

Dates: July 2003 - June 2007

The goal of this award is to identify the genes, using cell-based microarrays, that generate the mitochondrially-derived signal that regulates the mTOR pathway.

“Identification of the Mitochondrially-derived Signal That Regulates Growth Through the mTOR Pathway”

Rita Allen Scholar Award

P.I. David M. Sabatini

Dates: September 2004 - August 2007

The goal of this award is to biochemically purify and test metabolites that may be sensed by the mTOR pathway.

“Building a Platform to Identify the Metabolic Adaptations that Allow Tumor Cells to Survive in Poorly-Vascularized Environments”

David H. Koch Cancer Research Fund

P.I. David M. Sabatini

Dates: February 2005 - January 2006

The major goal of this project is to fully implement a mammalian lentiviral RNAi screening platform for screening the effects of loss of metabolic gene expression on cancer cells.

“Identification of the Metabolic Pathways that Allow Cancer Cells to Survive in the Tumor Environment”

Alexander and Margaret Stewart Trust Cancer Pilot Research Award

P.I. David M. Sabatini

Dates: July 2005 - June 2006

The goal of this pilot grant is to set up an RNAi screening platform.

“Development of a Systematic Method for Studying the Activity of Individual Human Genes in Cancer Cells”

Blum Foundation

P.I. David M. Sabatini

Dates: July 2002 - December 2005

The goal of this project is to continue the development of a microarray-based method for the screening of drugs in cellular assays. Pilot experiments indicate that the method is functional and will enable at least a 100-fold increase in throughput over the currently available methods. This grant was shared with Brent Stockwell.

“Development of siRNA-Expressing Cell Microarrays for Identifying Genes That Participate In Alzheimers Disease”.

The Fidelity Foundation

P.I. David M. Sabatini

Dates: September 2002 - August 2005

The goal of this grant is to make a collection of several thousand plasmid-based shRNAs that can then be used to create cellular microarrays in which the cells of each feature has a knock-down of a specific gene.

Patents

Patent 6544790: Reverse Transfection Method, issued 4/8/2003

Patent 6476200: Proteins that bind to FKBP12 in a rapamycin-dependent fashion, issued 11/5/2002

Drug Microarrays. Filed 7/10/2001

Nucleic Acids Encoding a Mammalian Raptor Polypeptide and Uses Thereof, filed 5/16/2002

G•L, a protein that binds the mTOR kinase domain and mediates raptor function, filed 2/18/2003

Transfection Method and Uses Related Thereto, filed 3/28/03

Books (or excerpts, or chapters)

Guertin, D. A., Kim, D.-H., and Sabatini, D. M., “Growth Control Through the mTOR Network” in *Cell Growth: Control of Cell Size* (Edited by Michael N. Hall, Martin Raff, and George Thomas), p.193-234. Cold Spring Harbor Laboratory Press, 2004.

Guertin, D.A and Sabatini, D.M., “Cell Size Control” in: *Encyclopedia of Life Sciences*. John Wiley & Sons, Ltd: Chichester, 2006.

Papers in Refereed Journals

1. Baccarini, M., Sabatini, D.M., App, H., Rapp, U.R. and Stanley, E.R., “Colony Stimulating factor-1 (CSF-1) stimulates temperature dependent phosphorylation and activation of the RAF-1 proto-oncogene product,” *EMBO* 9, 3649-3657, November 1990.

2. Sabatini, D.M., Erdjument-Bromage, H., Lui, M., Tempst, P. and Snyder S.H., “RAFT1: A Mammalian Protein That Binds to FKBP12 in a Rapamycin-Dependent Fashion and is Homologous to Yeast TORs,” *Cell* 78, 35-43, July 1994.

3. Erdjument-Bromage, H., Lui, M., Sabatini D.M., Snyder S.H. and Tempst, P., “High-sensitivity sequencing of large proteins: partial structure of the rapamycin-FKBP12 target,” *Protein Science* 3, 2435-2446, December 1994.

4. Cameron, A.M., Steiner, J.P., Sabatini, D.M., Kaplin, A.I., Walensky, L.D. and Snyder, S.H., “Immunophilin FK506 binding protein associated with inositol 1,4,5-triphosphate receptor modulates calcium influx,” *Proceedings of the National Academy of Sciences* 92, 1784-1788, February 1995.

5. Snyder, S.H. and Sabatini, D.M., “Immunophilins and the nervous system,” *Nature Medicine* 1, 32-37, January 1995.

6. Sabatini, D.M., Pierchala, B.A., Barrow, R.K., Schell, M.J., and Snyder, S.H., "The Rapamycin and FKBP12 Target (RAFT) Displays Phosphatidylinositol 4-Kinase Activity," *Journal of Biological Chemistry* 270, 20875-20878, September 1995.
7. Khan, A.A., Soloski, M.J., Sharp, A.H., Schilling, G., Sabatini, D.M., Li, S.H., Ross, C.A., and Snyder, S.H., "Lymphocyte Apoptosis: Mediation by Increased Type 3 Inositol 1,4,5-Triphosphate Receptor," *Science* 273, 503-507, July 1996.
8. Sabatini, D.M., Lai, M.M. and Snyder S.H., "Neural roles of the immunophilins," *Molecular Neurology*, 15, 223-239, October 1997.
9. Burnett, P.E., Barrow, R.K., Cohen, N.A., Snyder, S.H. and Sabatini, D.M., "RAFT1 phosphorylation of translational regulators p70 S6 kinase and 4E-BP1," *Proceedings of the National Academy of Sciences* 95, 1432-1437, February 1998.
10. Snyder, S.H., Sabatini, D.M., Lai, M.M., Steiner, J.P., Hamilton, G.S. and Suzdak, P.D., "Neural actions of immunophilin ligands," *Trends in Pharmacological Sciences* 19, 21-26, January 1998.
11. Burnett, P.E., Blackshaw, S., Mai, M.L., Qureshi, I.A., Burnett, A.F., Sabatini, D.M. and Snyder, S.H., "Neurabin is a synaptic protein linking p70 S6 kinase and the neuronal cytoskeleton," *Proceedings of the National Academy of Sciences* 95, 8351-8356, July 1998.
12. Walensky, L.D., Dawson, T.M., Steiner, J.P., Sabatini, D.M., Suarez, J.D., Klinefelter, G.R., Snyder, S.H., "The 12 kD FK 506 binding protein FKBP12 is released in the male reproductive tract and stimulates sperm motility," *Molecular Medicine* 4, 502-514, August 1998.
13. Sabatini, D.M., Barrow, R.K., Blackshaw, S., Burnett, P.E., Lai, M.L., Field, M.E., Bahr, B.A., Kirsch, J., Betz, H., Snyder, S.H., "Interaction of RAFT1 with the Clustering Protein Gephyrin Required for Rapamycin-Sensitive Signaling," *Science* 284, 1161-1164, May 1999.
14. Kumar, V., Sabatini, D.M., Pandey, P., Gingras, A.C., Majumder, P.K., Kumar, M., Yuan, Z.M., Carmichael, G., Weichselbaum, R., Sonenberg, N., Kufe, D., Kharbanda S., "Regulation of the rapamycin and FKBP-target 1/mammalian target of rapamycin and cap-dependent initiation of translation by the c-Abl protein-tyrosine kinase," *Journal of Biological Chemistry* 275, 10779-87, April 2000.
15. Kumar, V, Pandey, P, Sabatini, D.M., Kumar, M, Majumder, P.K., Bharti, A., Carmichael, G., Kufe, D., Kharbanda, S., "Functional interaction between RAFT1/FRAP/mTOR and protein kinase c• in the regulation of cap-dependent initiation of translation," *European Molecular Biology Association* 19, 1087-1097, March 2000.
16. Ziauddin, J. and Sabatini, D.M., "Microarrays of cell expressing defined cDNAs," *Nature* 411, 107-110, May 2001.
17. Hentges, K.E., Sirry, B., Gingras, A.C., Sarbassov, D., Sonenberg, N., Sabatini, D.M., Peterson, A.S., "FRAP/mTOR is required for proliferation and patterning during embryonic development in the mouse," *Proceedings of the National Academy of Sciences* 98, 13796-13801, June 2001.
18. Hahn, W.C., Dessain, S.K., Brooks, M.W., King, J.E., Elenbass, B., Sabatini, D.M., DeCaprio, J.A., and Weinberg, R.A., "Enumeration of the pathways required for tumorigenic transformation of human cells," *Molecular and Cellular Biology* 22, 2111-2123, April 2002.

19. Peng, T., Golub, T., and Sabatini, D.M., "The immunosuppressant rapamycin mimics a starvation-like signal distinct from amino acid or glucose deprivation," *Molecular and Cellular Biology* 22, 5575-5584, August 2002.
20. Bailey, S., Wu, R. and Sabatini, D.M., "Applications of transfected cell microarrays to drug discovery," *Drug Discovery Today, High-throughput Technologies Supplement*, S113-118, September 2002.
21. Kim, D.-H., Sarbassov, D., Ali, S.M., King, J.E., Latek, R.R., Erdjument-Bromage, H., Tempst, P., and Sabatini, D.M., "mTOR interacts with raptor to form a nutrient-sensitive complex that signals to the growth machinery," *Cell* 110, 163-175, July 2002.
22. Wu, R., Bailey, S. and Sabatini, D.M., "Cell biological applications of transfected cell microarrays," *Trends in Cell Biology* 12, 485-488, October 2002.
23. Stewart, S.A., Dykxhoorn, D.M., Palliser, D., Mizuno, H., Yu, E.Y., An, D.S., Sabatini, D.M., Chen, I.S.Y., Hahn, W.C., Sharp, P.A., Weinberg, R.A., and Novina, C.D., "Lentivirus-delivered stable gene silencing by RNAi in primary cells," *RNA* 9, 493-501, April 2003.
24. Kim, D.-H., Sarbassov, D., Ali, S.M., Latek, R.R., Guntur, K.V.P., Erdjument-Bromage, H., Tempst, P., and Sabatini, D.M., "GβL: a positive regulator of the rapamycin-sensitive pathway required for the nutrient-sensitive interaction between mTOR and raptor," *Molecular Cell* 11, 895-904, April 2003.
25. Schalm, S.S., Fingar, D.C., Sabatini, D.M., and Blenis J., "TOS Motif-Mediated Raptor Binding Regulates 4E-BP1 Multisite Phosphorylation and Function," *Current Biology* 13, 797-806, May 2003.
26. Kim, D.-H., and Sabatini, D.M., "Raptor and mTOR: subunits of a nutrient-sensitive complex," *Current Topics in Microbiology and Immunology* 279, 259-270, 2004.
27. Carpenter, A.E. and Sabatini, D.M., "Systematic genome-wide screens of gene function," *Nature Reviews Genetics* 5, 11-22, January 2004.
28. Sarbassov, D., Ali, S.M., Kim, D.-H., Guertin, D.A., Latek, R.R., Erdjument-Bromage, H., Tempst, P., and Sabatini, D.M., "Rictor, a novel binding partner of mTOR, defines a rapamycin-insensitive and raptor-independent pathway that regulates the cytoskeleton," *Current Biology* 14, 1296-1302, July 2004.
29. Wheeler, D.B., Bailey, S.N., Guertin, D.A., Carpenter, A.E., Higgins, C.O., and Sabatini, D.M., "RNAi living cell microarrays for loss of function screens in Drosophila cells," *Nature Methods* 1, 127-132, November 2004.
30. Bailey, S.N., Sabatini, D.M., and Stockwell, B.R., "Microarrays of small molecules embedded in biodegradable polymers for use in mammalian cell-based screens," *Proceedings of the National Academy of Sciences* 101, 16144-16149, November 2004.
31. Sarbassov, D.D., Guertin, D.A., Ali, S.M., and Sabatini, D.M., "Phosphorylation and Regulation of Akt/PKB by the Rictor-mTOR complex," *Science* 307, 1098-1101, February 2005.
32. Ali, S.M. and Sabatini, D.M., "Structure of S6K1 determines if raptor-mTOR or rictor-mTOR phosphorylates its hydrophobic motif site," *Journal of Biological Chemistry* 280, 19445-19448, May 2005.

33. Wheeler, D.B., Carpenter, A.E., Higgins, and Sabatini, D.M., "Chipping away at gene function with RNAi cell microarrays," *Nature Genetics Supplement*, S25-30, June 2005.
34. Guertin, D.A. and Sabatini, D.M., "An expanding role for mTOR in cancer," *Trends in Molecular Medicine* 8, 353-361, August 2005.
35. Sarbassov, D.D., Sabatini, D.M., "Redox Regulation of the nutrient-sensitive raptor-m-TOR pathway and complex," *Journal of Biological Chemistry* 280, 39505-9, 2005.
36. Sarbassov, D.D., Ali, S.M., Sabatini, D.M., "Growing roles for the mTOR pathway," *Current Opinion in Cell Biology* 17, 596-603, 2005.
37. Bailey, S.N., Ali, S.M., Sabatini, D.M., "Microarrays of lentiviruses for gene function screens in immortalized and primary cells," *Nature Methods* 3, 117-22, March 2006.
38. Moffat, J., Grueneberg, D.A., Yang, X., Kim, S.Y., Kloepper, A.M., Hinkle, G., Pigani, B., Eisenhaure, T.M., Luo, B., Genier, J.K., Carpenter, A.E., Foo, S.Y., Stewart, S.A., Stockwell, B.R., Hacohen, N., Hahn, W.C., Lander, E.S., Sabatini, D.M., Root, D.E., "A lentiviral RNAi library for human and mouse genes: Construction, characterization and application to an arrayed screen," *Cell* 124, 1283-98, March 2006.
39. Moffat, J. and Sabatini, D.M., "Building mammalian signalling pathways with RNAi screens," *Nature Reviews Molecular Biology* 3, 177-187, March 2006.
40. Sarbassov, D.D., Ali, S.A., Sengupta, S., Sheen, J.H., Hsu, P., Bagley, A.F., Markhard, A.L., and Sabatini, D.M., "Prolonged rapamycin treatment inhibits mTORC2 assembly and Akt/PKB," *Molecular Cell* 22, 159-168, March 2006.
41. Guertin, D.A., Guntur, K.V.P., Bell, G.W., Thoreen, C.C., and Sabatini, D.M., "Functional genomics identifies TOR-regulated genes that control growth and division," *Current Biology* 16, 958-970, May 2006.
42. Sabatini, D.M. "mTOR and cancer: insights into a complex relationship," *Nature Reviews Cancer* 9, 729-734, September 2006
43. Frias, M.A. Thoreen, C.C., Jaffe, J.D., Schroder, W., Sculley, T., Carr, S.A. and Sabatini, D. M., "mSin1 Is Necessary for Akt/PKB Phosphorylation, and Its Isoforms Define Three Distinct mTORC2s," *Current Biology* 16, 1-6, September 2006.
44. Root, D.E., Hacohen, N., Hahn, W.C., Lander, E.S., Sabatini, D.M., "Genome-scale loss-of-function screening with a lentiviral RNAi library," *Nature Methods* 3, 715-19, September 2006.
45. Reiling, J.H. and Sabatini, D.M., "Stress and mTORture Signaling," *Oncogene* 25, 6373-6383, October 2006.
46. Carpenter, A. E., Jones, T. R., Lamprecht, M. R., Clarke, C., Kang, I.H., Friman, O., Guertin, D.A. Chang, J.H., Lindquist, R. A., Moffat, J., Golland, J. and Sabatini, D. M., "CellProfiler: image analysis software for identifying and quantifying cell phenotypes". *Genome Biology* 7:R100, October 2006.
47. Echeverri, C. J., Beachy, P. A., Baum, B., Boutros, M., Buchholz, F., Chanda, S. K., Downward, J., Ellenberg, J., Fraser, A. G., Hacohen, N., Hahn, W. C., Jackson, A. L., Kiger, A., Linsley, P. S., Lum,

- L., Ma, Y., Mathey-Prévôt, B., Root, D. E., Sabatini, D.M., Taipale, J., Perrimon, N., and Bernards, R.. "Minimizing the risk of reporting false positives in large-scale RNAi screens," *Nature Methods* 3, 777-779. October 2006.
48. Guertin, D.A., Stevens D.M., Thoreen, C.C., Burds, A.A., Kalaany, N.Y., Moffat, J., Brown, M. Fitzgerald, K.J. and Sabatini, D.M., "Ablation in mice of the mTORC components raptor, rictor, or mLST8 reveals that mTORC2 is required for signaling to Akt-FOXO and PKCalpha, but not S6K1," *Developmental Cell* 11, 859-871. December 2006.
49. Lamprecht, M.D., Sabatini, D.M., and Carpenter, A.E. "CellProfiler: free, versatile software for automated biological image analysis," *Biotechniques* 42, 71-75. January 2007.
51. Zeng, Z., Sarbassov, D. D., Samudio, I. J., Yee, K., Munsell, M.F., Jackson, M.F., Ellen, J.C., Giles F. J., Sabatini, D.M., Andreeff, M. and Konopleva, M.. "Rapamycin derivatives reduce mTORC2 signaling and inhibit AKT activation in AML," *Blood* 8, 3509-12 April 2007.
52. Sancak, Y., Thoreen C.C., Peterson T.R., Lindquist R.A., Kang, S.A., Spooner E., Carr S.A., Sabatini, D.M., "PRAS40 is an insulin-regulated inhibitor of the mTORC1 protein kinase," *Molecular Cell* 6, 903-15. March 2007.
53. Moffat J. Reiling J.H., and Sabatini D.M. "Off-target effects associated with long dsRNAs in Drosophila RNAi screens," *Trends in Pharmacological Sciences* 4, 149-51. April 2007.
54. Guertin, D.A., and Sabatini, D.M., "Defining the Role of mTOR in Cancer," *Cancer Cell* 12, 9-22, July 2007.
55. Reiling, J.H., and Sabatini, D.M., "Increased mTORC1 signaling UPregulates stress," *Molecular Cell* 14,533-535. March 2008.
56. Sancak, S., Peterson, T.R., Shaul, Y.D., Lindquist, R.A., Thoreen, C. C., Bar-Peled, L. and Sabatini, D.M., "The Rag GTPases bind raptor and mediate amino acid signaling to mTORC1," *Science* 320, 1496-1501. May 2008.
57. Hsu, P.P. and Sabatini, D.M., "Cancer Cell Metabolism: Warburg and Beyond," *Cell* 134, 703-707. September 2008.
58. Jones, T.R., Kang, I.H., Wheeler, D.B., Lindquist, R.A., Papallo, A., Sabatini, D.M., Golland, P., and Carpenter, A.E., "CellProfiler Analyst: data exploration and analysis software for complex image-based screens," *BMC Bioinformatics* 9, 482. November 2008.
59. Luo, B., Cheung, H.W., Subramanian, A., Sharifnia, T., Okamoto, M., Yang, X., Hinkle, G., Boehm, J.S., Beroukhi, R., Weir, B.A., Mermel, C., Barbie, D.A., Awad, T., Zhou, X., Nguyen, T., Piqani, B., Li, C., Golub, T.R., Meyerson, M., Hacohen, N., Hahn, W.C., Lander, E.S., Sabatini, D.M., and Root, D.E., "Highly parallel identification of essential genes in cancer cells," *PNAS* 105, 20380-203805. December 2008.
60. Thoreen, C.C., Kang, S.A., Chang, J.W., Liu, Q, Zhang, J., Gao, Y., Reichling, L.J., Sim, T., Sabatini, D.M., and Gray, N.S., "An ATP-competitive mTOR inhibitor reveals rapamycin-insensitive functions of mTORC1," *J. Biological Chemistry*, 284, 8023-8032. January 2009.

61. Guertin, D.A., Stevens, D.M., Saitoh, M., Kinkel, S., Crosby, K., Sheen, J.-H., Mullholland, D.J., Magnuson, M.A., Wu, H., and Sabatini, D.M., "The mTOR complex 2 is required for the development of prostate cancer induced by PTEN loss in mice," *Cancer Cell* 15, 148-159, February 2009.

62. Kalaany, N.K. and Sabatini, D.M., "Tumours with PI3K activation are resistant to dietary restriction," *Nature* 458, 725-731, April 2009.

63. Peterson, T.R., Laplante, M., Thoreen, C., Sancak, Y., Kang, S. A., Kuehl, W. M., Gray, N. S., Sabatini, D. M., "DEPTOR is an mTOR Inhibitor Whose Frequent Overexpression in Multiple Myeloma Cells Promotes their Survival. *Cell* 137, 873-886, May 2009.

Proceedings of Refereed Conferences

None

Other Major Publications

1. Thoreen, C.C. and Sabatini, D.M., "Huntingtin aggregates ask to be eaten," *Nature Genetics* 36, 553-554, June 2004.

2. Peterson, T.R. and Sabatini, D.M., "eIF3: a connector of S6K1 to the translational preinitiation complex," *Molecular Cell* 20, 655-657, December 2005.

3. Thoreen, C.C. and Sabatini, D.M., "AMPK and p53 help cells through lean times," *Cell Metabolism* 18, 283-293, April 2005.

Internal Memoranda and Progress Reports

None

Invited Lectures

July 2001, "New Approaches to the Study of Cell Growth," *Cancer: Mechanisms and Models* Gordon Research Conference, Newport, Rhode Island.

August 2001, "Cell-Based Microarrays," Enabling Technologies for Alzheimer's Disease Workshop, Bar Harbor, Maine.

October 2001, "New Approaches to the Study of Cell Growth," Department of Pathology Seminars, Yale University.

December 2001, "Cell-Based Microarrays," Yokohama 21st Century Forum, Yokohama, Japan.

December 2001, "Cell-Based Microarrays," RIKEN Research Seminar, RIKEN at Yokohama, Japan.

January 2002, "Cell-Based Microarrays," Cambridge Healthtech *Protein Microarrays* Meeting, San Diego, California.

January 2002, "New Approaches to the Study of Cell Growth," Pharmacology Departmental Seminar, University of California at Los Angeles.

March 2002, "Cell-Based Microarrays," IBC *Protein/Cell Microarrays* Meeting, San Diego, California.

April 2002, "Cell-Based Microarrays," Proteomics Workshop, National Institutes of Health.

April 2002, "Cell-Based Microarrays," Cambridge Healthtech: *Macroresults through Microarrays* Meeting, Boston, Massachusetts.

August 2002, "Cell-Based Microarray Loss of Function Studies," Enabling Technologies for Alzheimer's Disease Workshop II, Bar Harbor, Maine.

August 2002, "The Role of the mTOR Pathway in Cancer," Targeted Therapies Meeting, Washington, D.C.

September 2002, "RNAi and Cell-Based Microarrays," Wyeth/GI RNAi Symposium, Cambridge, Massachusetts.

October 2002, "RNAi and Cell-Based Microarrays," Brazilian Congress of Pharmacology Meeting, Aguas de Lindoia, Brazil.

November 2002, "RNAi and Cell-Based Microarrays," ACS Prospectives Meeting, Boston, Massachusetts.

November 2002, "New Approaches to the Study of Cell Growth," NYSEM Presidential Symposium, Cornell Medical College.

December 2002, "New Approaches to the Study of Cell Growth," 2nd International Conference on Structural Biology, Singapore.

January 2003, "New Approaches to the Study of Cell Growth," CSBi Symposium at MIT: *From Bioinformatics to Biofabrication*, Cambridge, Massachusetts.

January 2003, "The Control of Cell Growth by the mTOR Pathway," Molecular Genetics and Microbiology Departmental Seminar, Robert Wood Johnson Medical School.

February 2003, "The Control of Cell Growth by the mTOR Pathway," Cardiovascular Research Center Seminar, Massachusetts General Hospital.

February 2003, "New Approaches to the Study of Growth," ABRF 2003: *Translating Biology Using Proteomics and Functional Genomics* Meeting, Denver, Colorado.

February 2003, "New Approaches to the Study of Growth," Keystone Symposium: *Functional Genomics: Global Analysis of Complex Biological System*, Santa Fe, New Mexico.

April 2003, "The Control of Cell Growth by the mTOR Pathway," ASBMB: *mTOR symposium*, San Diego, California.

May 2003, "The Control of Cell Growth by the mTOR Pathway," Friday Noon Seminar, St. Jude Children's Research Hospital.

August 2003, "High-Throughput Loss of Function Studies Screening," Enabling Technologies for Alzheimer's Disease Workshop III, Bar Harbor, Maine.

August 2003, "The Control of Cell Growth by the mTOR Pathway," Research Seminar, Friedrich Miescher Institute, Basel, Switzerland.

August 2003, "The Control of Cell Growth by the mTOR Pathway," Arolla Workshop: *Cell Growth in Development and Disease*, Arolla, Switzerland.

August 2003, "The Role of the mTOR Pathway in Cancer," Targeted Therapies II Meeting, Washington, D.C.

October 2003, "The Control of Growth by the mTOR Pathway," *Translating Genomes: Proteomics and Beyond*, CABM, UMDNJ, Piscataway, New Jersey.

October 2003, "The Control of Growth by the mTOR Pathway," Division of Biology and Medicine Seminar, Brown University.

October 2003, "The Control of Growth by the mTOR Pathway," Science and Medicine Seminar, Department of Medicine, Massachusetts General Hospital.

November 2003, "The Control of Growth by the mTOR Pathway," Department of Genetics Seminar Series, Washington University.

December 2003, "The Control of Growth by the mTOR Pathway," Gastrointestinal Unit Research Seminar Series, Massachusetts General Hospital.

December 2003, "The Control of Growth by the mTOR Pathway," Molecular Medicine Seminar, Brigham & Women's Hospital.

December 2003, "Signaling by the mTOR Pathway," Research Seminar, Wyeth Research, Pearl River, New York.

January 2004, "Signaling by the mTOR Pathway," Research Seminar, Infinity Pharmaceuticals, Cambridge, Massachusetts.

February 2004, "Signaling by the mTOR Pathway," Research Seminar, Pfizer Discovery Technology Center, Cambridge, Massachusetts.

February 2004, "The Control of Growth by the mTOR Pathway," Seminars in Biomedical Science, University of California at San Francisco.

February 2004, "The Control of Growth by the mTOR Pathway," Institute for Cancer Genetics Seminar, Columbia University.

April 2004, "New Approaches to the Study of Growth Control," Lewis-Sigler Institute for Integrative Genomics Seminar, Princeton University.

April 2004, "The Control of Growth by the mTOR Pathway," Cellular and Molecular Physiology Departmental Seminar, Tufts University.

April 2004, "The Control of Growth by the mTOR Pathway," CMB/LSC Seminar Series, Penn State College of Medicine.

April 2004, "The Control of Growth by the mTOR Pathway," Abramson Cancer Institute Seminar, University of Pennsylvania.

April 2004, "New Approaches to the Study of Cell Growth," Research Seminar, Functional Genomics Workshop, Dana-Farber Cancer Institute.

April 2004, "New Approaches to the Study of Cell Growth," 3rd Annual International Symposium on Systems Biology, Institute for Systems Biology, Seattle, Washington.

April 2004, "The Control of Growth by the mTOR Pathway," Frontiers in Biology Seminar, Stanford University.

May 2004, "The Control of Growth by the mTOR Pathway," Department of Biochemistry Seminar, McGill University.

May 2004, "The Control of Growth by the mTOR Pathway," Workshop on Proteins Controlling Cell Growth, Institute Juan March, Madrid, Spain.

May 2004, "mTOR Signaling," Research Seminar, Novartis Institute for Biomedical Research, Cambridge, Massachusetts.

June 2004, "New Approaches to the Study of Cell Growth," Genomics, Proteomics & Bioinformatics session, ASBMB, Boston, Massachusetts.

June 2004, "The Control of Growth by the mTOR Pathway," Research Seminar, Ontario Cancer Institute, Toronto, Canada.

June 2004, "The Control of Growth by the mTOR Pathway," Research Seminar, Genetics Society of Canada, Toronto, Canada.

June 2004, "The Control of Growth by the mTOR Pathway," 2nd *Messengers & Protein Synthesis* Gordon Research Conference, Meriden, New Hampshire.

June 2004, "mTOR Signaling," Boehringer Ingelheim Strategic Planning Meeting on Targets in Oncology, Vienna, Austria.

October 2004, "The Control of Growth by the mTOR Pathway," University Lecture, Rockefeller University.

October 2004, "The Control of Growth by the mTOR Pathway," Department of Pharmacology Research Seminar, New York University.

October 2004, "The Control of Growth by the mTOR Pathway," Division of Cancer Biology Research Seminar, Beth Israel Deaconess.

October 2004, "New Approaches to the Study of Cell Growth," Special Session, American Society of Human Genetics Annual Meeting, Toronto, Canada.

November 2004, "The Control of Growth by the mTOR Pathway," Oncology Seminar, Dana-Farber Cancer Institute.

November 2004, "The Control of Growth by the mTOR Pathway," Fall Cancer Symposium, University of Michigan Medical Center, Ann Arbor, Michigan.

January 2005, "Signaling by the mTOR Pathway," Research Seminar, OSI Pharmaceuticals, Farmingdale, New York.

January 2005, "The Control of Growth by the mTOR Pathway," Research Seminar, MGH/Harvard Cutaneous Biology Research Center, Massachusetts General Hospital.

January 2005, "New Approaches to the Study of Cell Growth," Research Seminar, Bauer Center for Genomics, Harvard University.

February 2005, "The Control of Growth by the mTOR Pathway," Research Seminar, MGH Center for Cancer Research, Massachusetts General Hospital.

March 2005, "The Control of Growth by the mTOR Pathway," Neuroscience Monday Seminars, Children's Hospital, Boston, Massachusetts.

March 2005, "RNAi Library Screening," TargetTalk Meeting, San Diego, California.

April 2005, "The Control of Growth by the mTOR Pathway," Department of Pharmacology Seminar Series, University of Virginia, Charlottesville, Virginia.

June 2005, "Regulation of Growth by the mTOR Pathway," Research Seminar, Pfizer Research Technology Center, Cambridge, Massachusetts.

June 2005, "Regulation of Growth by the mTOR Pathway," American Diabetes Association, San Diego, California.

July 2005, "Signaling by the mTOR Pathway," Research Seminar, GlaxoSmithKline, Philadelphia, Pennsylvania.

July 2005, "Regulation of Growth by the mTOR Pathway," *Cancer Models & Mechanisms* Gordon Research Conference, Smithfield, Rhode Island.

July 2005, "Control of Growth and Proliferation by the mTOR Pathway," *Protein Kinases and Protein Phosphorylation* FASEB Meeting, Snowmass, Colorado.

August 2005, "Signaling by the mTOR Pathway to Akt/PKB and S6K," *Glucose Transporter Biology* FASEB Meeting, Snowmass, Colorado.

August 2005, "Signaling by the mTOR Pathway to Akt/PKB and S6K," Research Seminar, Ariad Pharmaceuticals, Cambridge, Massachusetts.

October 2005, "Signaling by the mTOR Pathway to Akt/PKB and S6K," Research Seminar, Pfizer, Groton, Connecticut.

November 2005, "Signaling by the mTOR Pathway to Akt/PKB and S6K," Research Seminar, Cell Signaling Technology, Beverly, Massachusetts.

November 2005, "Signaling by the mTOR Pathway to Akt/PKB and S6K," Research Seminar, Praecis Pharmaceuticals, Waltham, Massachusetts.

January 2006, "New Approaches to the Study of Growth Control," Keystone Symposia titled "Signaling Networks", Vancouver, Canada.

February 2006, "mTOR Regulation of Growth and Proliferation," Pharmacology & Cancer Biology Signal Transduction Colloquium Seminar Series, Duke University.

March 2006, "Regulation on Growth by the mTOR Pathway," PTEN Pathways Conference, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.

April 2006, "New Approaches to the Study of Growth Control," Genome Sciences Departmental Seminar, University of Washington.

May 2006, "Regulation of Growth by the mTOR Pathway," Regina Elena Cancer Institute, Rome, Italy.

May 2006, "Signaling by the mTOR Pathway to Akt PKB and S6K," Second Annual IFOM-IEO Meeting on Cancer (The FIRC Institute of Molecular Oncology Foundation) and IEO (European Institute of Oncology), Milan, Italy.

May 2006, "Regulation of growth by the mTOR pathway," CNIO (Center for National Cancer Research) Conference on "PTEN and the AKT route", Madrid, Spain.

June 2006, "Regulation of growth by the mTOR pathway," Genentech, Corporation, San Francisco, California.

June 2006, "Regulation of growth by the mTOR pathway," 20th IUBMB International Congress of Biochemistry and Molecular Biology and 11th FAOBMB Congress. Osaka, Japan.

June 2006, Guest Lecturer Physiology, Marine Biology Laboratory, Woods Hole, Massachusetts.

July 2006, "Regulation of growth by the mTOR pathway," Gordon Research Conference on Molecular Cell Biology. Tilton, New Hampshire.

July 2006, "Regulation of growth by the mTOR pathway," Gordon Research Conference on Growth Factor Signaling. New London, Connecticut.

September 2006, "Lentiviral RNAi screening," Roche Pharmaceuticals, Nutley, New Jersey.

October 2006, "Regulation of Growth by the mTOR pathway," Max Planck Institute, Berlin, Germany.

October 2006, "Signaling through the mTORC1 and mTORC2 Pathways," Novartis Pharmaceuticals, Cambridge, Massachusetts.

January 2007, "Signaling through the mTORC1 and mTORC2 Pathways," 2007 Keystone Symposium on *Obesity: Peripheral and Central Pathways Regulating Energy Homeostasis*, Keystone Resort in Keystone, Colorado.

March 2007, "Signaling through the mTORC1 and mTORC2 Pathways," 2007 Pew Scholars Program in Biomedical Sciences. Puerto Vallarta, Mexico.

March 2007, "Signaling through the mTORC1 and mTORC2 Pathways," Cell Signaling Technology Seminar, Danvers, Massachusetts.

April 2007, "Signaling through the mTORC1 and mTORC2 Pathways," Pathology Department, Harvard Medical School.

May 2007, "Signaling through the mTORC1 and mTORC2 Pathways," New York Academy of Sciences Symposium: *The PI3K-PTEN-AKT-TOR Signaling Pathway in Cancer, Metabolism and Aging*, New York, NY.

May 2007, "Signaling through the mTORC1 and mTORC2 Pathways," Cell Biology Department, Johns Hopkins University School of Medicine.

May 2007, "Signaling through the mTORC1 and mTORC2 Pathways," Seminar Series, National Institute of Dental and Cranial Research, NIH.

June 2007, "Signaling through the mTORC1 and mTORC2 Pathways," Cancer Center Cell Biology Program Research Seminar Series, Memorial Sloan-Kettering, New York, NY.

June 2007, "Signaling through the mTORC1 and mTORC2 Pathways," Cantoblanco Workshop on Biology symposium titled "Signaling and Metabolic Pathways in Cancer", Madrid, Spain.

June 2007, "Signaling through the mTORC1 and mTORC2 Pathways," Beatson International Cancer Conference titled "Molecular Cancer Therapeutics: New Challenges and Horizons", Glasgow, Scotland.

June 2007, "Signaling through the mTORC1 and mTORC2 Pathways," Gordon Research Conference on Cell Proliferation titled "Molecular Therapeutics of Cancer", University of New England, Biddeford, Maine.

July 2007, "Signaling through the mTORC1 and mTORC2 Pathways," FASEB meeting on protein kinases titled "Protein Kinases and Protein Phosphorylation", Indian Wells, CA.

July 2007, "Signaling through the mTORC1 and mTORC2 Pathways," Gordon Research Conference on Molecular Therapeutics of Cancer, New London, New Hampshire.

September 2007, "Metabolic Pathways in Cancer," Mahajani Symposium on Cancer and Metabolism, Salk Institute, La Jolla, CA.

September 2007, "mTOR and Disease," Tuberous Sclerosis Complex: From Genes to New Therapeutics Meeting, Annapolis, MD.

October 2007, "Signaling through the mTORC1 and mTORC2 Pathways," CNIO Spanish National Cancer Research Center Nature Symposium on Oncogenes and Human Cancer: The Next 25 Years, Madrid, Spain.

January 2008, "New Screening Technologies," 3V Biosciences Scientific Retreat, Menlo Park, CA

March 2008, "Nutrient Sensitive Growth Control by mTOR," Foundation IPSEN Annual Meeting titled "Metabolism and Cancer", Villa Caletas, Costa Rica.

March 2008, "Regulation of Growth by the mTOR Pathway," Beth Israel Deaconess Medical Center Endocrine Grand Rounds, Boston, MA.

March 2008, "Growth Control Through the mTOR Pathway," University of Pennsylvania Diabetes, Obesity & Metabolism Graduate Student Interest Group (IDOM) Seminar Series, Philadelphia, PA.

March 2008, "Regulation of Growth by the mTOR Pathway," Dundee Cell Signaling Lecture Series, University of Dundee, Dundee, Scotland, UK.

March 2008, "mTOR Signaling Pathways," Wyeth Research Frontiers in Human Diseases Symposium, New York, NY.

April 2008, "mTOR1 vs mTOR2," The LAM Foundation 2008 International Research Conference, Cincinnati, OH.

April 2008, "Growth Control by the mTOR Pathway," Weizmann Institute of Science, Life Science Colloquium Series at the Weizmann Institute, Rehovot, Israel.

May 2008, "RNAi Approaches to Growth Regulation," RNAi Mini Symposium, Taipei, Taiwan.

June 2008, "Signaling through the mTORC1 and mTORC2 Pathways," Gordon Research Conference on Protein Phosphorylation and G-Protein Signaling Networks entitled "Signaling Networks in Nutrient Sensing and Metabolism," University of New England, Biddeford, Maine.

July 2008, "Growth Control through the mTOR Pathway," Cell Signaling Technology, Danvers, Massachusetts.

July 2008, "New Approaches to Identify Cancer Targets," MPM Scientific Retreat, Endicott House, Dedham, Massachusetts.

November 2008, "Regulation of growth by the mTOR pathway," CNIO (Center for National Cancer Research) Conference on "Upstream of mTOR", Madrid, Spain.

November 2008, "Regulation of growth by the mTOR pathway," AACR Meeting on PI3K Signaling and Cancer", Cambridge, MA.

January 2009, "Large-scale Loss of Function Screens in Mammalian Cells," Keystone Meeting on "Omics Meets Cell Biology," Breckenridge, CO.

April 2009, "Growth Control by the mTOR pathway," Winter/Spring 2009 Pharmacology Seminar Course Series, Weill Cornell Medical College, New York, NY.

April 2009, "Growth Control by the mTOR pathway," Department of Cell Biology, Yale University School of Medicine, New Haven, CT.

April 2009, "Regulation of Growth by the mTOR pathway," 2009 Annual Meeting of the American Association for Cancer Research, Denver, CO.

April 2009, "Crosstalk between PI3K and mTOR," 2009 Keystone Symposia on PI 3-Kinase Signaling in Disease, Olympic Valley, CA.

May 2009, "Sizing up Caloric Restriction: Links to Cancer, Growth, & Aging," Whitehead Institute for Biomedical Research Young Professional Group (YPG) NYC Event, New York, NY.

June 2009, "The Therapeutic Potential of the mTOR Pathway," 21st Pezcoller Symposium, Unconventional Therapeutic Targets in Cancer, Trento, Italy.

June 2009, "Loss of function approaches in mammalian cells," Makota Life Sciences, Bedford, MA.

July 2009, "Amino acid sensing by mTOR," NCI/NINDS Cancer Cell Metabolism Workshop, Bethesda, MD.

July 2009, "Protein Kinases & Protein Phosphorylation," FASEB Summer Research Conference, Snowmass, CO.

Teaching

MIT Courses

Fall 2004, Course 7.22 "Development." Designed and taught one lecture in course developed by Hazel Sive and Ilaria Rebay.

Spring 2004, Course 7.16, "Biotechnology II (Project Lab)." Co-designed and co-taught entire course with Chris Burge.

Fall 2005, Course 7.20 "Human Physiology." Co-taught with Monty Krieger. Designed and taught second half of course.

Fall 2005, Course 7.22 "Development." Designed and taught one lecture in course developed by Hazel Sive.

Spring 2005, Course 7.16, "Biotechnology II (Project Lab)." Co-developed and co-taught entire course with Chris Burge.

Spring 2006, Course 7.16, "Biotechnology II (Project Lab)." Co-developed and co-taught entire course with Chris Burge.

Fall 2006, Course 7.20 "Human Physiology." Co-taught with Monty Krieger. Designed and taught second half of course.

Spring 2007, Course 7.16, "Biotechnology II (Project Lab)." Co-developed and co-taught entire course with Chris Burge.

Fall 2007, Course 7.50, "Molecular Biology: Methods and Logic." Co-taught with Leonard Guarente, David Houseman, Richard Hynes, Jackie Lees and Michael Hemann.

Fall 2008, Course 7.50, "Molecular Biology: Methods and Logic." Co-taught with Leonard Guarente, David Houseman, Richard Hynes, Jackie Lees and Michael Hemann.

Fall 2008, Course 7.20 "Human Physiology." Co-taught with Monty Krieger. Designed and taught second half of course.

Other Courses

Summer 2006, Physiology Course at Woods Hole Marine Biology Laboratory, Woods Hole, MA.

Spring 2008, "Nano Course on mTOR and Disease," Harvard Medical School, Boston, MA.

Postdoctoral Fellows and Associates Supervised

Anne E. Carpenter, Ph.D., Postdoctoral Fellow from 2002-2006. Currently she is the Director of the Imaging Platform at the Broad Institute, Cambridge, Massachusetts
Do-Hyung Kim, Ph.D., Postdoctoral Fellow from 2001-2004. Currently he is an Assistant Professor, Department of Biochemistry, Molecular Biology, and Biophysics at the University of Minnesota, Minneapolis, Minnesota
Jason Moffat, Ph.D., Postdoctoral Fellow from 2003-2007. Currently he is an Assistant Professor at the University of Toronto, Toronto, Canada
Tao Peng, Ph.D., Postdoctoral Associate from 1998-2003. Currently he is a Research Scientist, Center for Expression Arrays, Dept. of Microbiology, University of Washington, Seattle, Washington
Dos S. Sarbassov, Ph.D., Postdoctoral Fellow from 1999-2006. Currently he is an Assistant Professor at M.D. Anderson Cancer Center, Houston, Texas

Jacob Chudnovsky, Ph.D., Postdoctoral Fellow since 2006
Alejo Efeyan, Ph.D., Postdoctoral Associate since 2008
Brian Grabiner, Ph.D., Postdoctoral Associate since 2008
David A. Guertin, Ph.D., Postdoctoral Fellow since 2002
Nada Kalaany, Ph.D., Postdoctoral Associate since 2005
Seong Woo Kang, Ph.D., Postdoctoral Fellow since 2005
Mathieu Laplante, Ph.D., Postdoctoral Fellow since 2007
Dudley Lamming, Ph.D., Postdoctoral Fellow since 2008
Richard Possemato, Ph.D., Postdoctoral Associate since 2008
Jan Reiling, Ph.D., Postdoctoral Fellow since 2005
Yoav Shaul, Ph.D., Postdoctoral Fellow since 2007
Joon-Ho Sheen, Ph.D., Postdoctoral Fellow since 2002
Kris Wood, Ph.D. Postdoctoral Fellow since 2007
Roberto Zoncu, Postdoctoral Associate since 2008

Predoctoral Students Supervised

Siraj M. Ali, HST M.D./Ph.D student who completed his thesis in Spring 2005. Currently is a Pathology resident at BIDMC.
Maria (Xana) Frias, Graduate Assistant from 2003-2007. Currently is a post-doctoral fellow with Robert Darnell, Rockefeller University
Thouis Ray Jones, Computer Science Graduate Student (with Polina Golland) who completed thesis in Spring of 2007 and is currently at the Broad Institute
Carson Thoreen, MIT Biology Graduate Assistant since 2003-2008. Currently post-doctoral fellow jointly with lab of Nathanael Gray, DFCI.

Liron Bar-Peled, MIT Biology Graduate Assistant since 2008
Peggy Hsu, HST M.D./Ph.D student since 2006
Heather Keys, MIT Biology Graduate Assistant since 2007
Stephanie Kinkel, MIT Biology Graduate Assistant since 2008
Timothy Peterson, MIT Biology Graduate Assistant since 2004
Yasemin Sancak, MIT Biology Graduate Assistant since 2004
Shomit Sengupta, MIT Biology Graduate Assistant since 2004
Douglas Wheeler, Tri-institutional M.D./Ph.D student since 2008 (jointly with Charles Sawyers, MSKCC)

UROP Students Supervised

Alex Bagley, current M.D./Ph.D student, HST Program, Harvard and MIT
Andrew Markhard, Undergraduate Research Assistant and Summer Intern 2005 and 2006
Stephanie Oh, Undergraduate Research Assistant, 2008 - 2009
Jeff Meng, Summer Intern, Williams College, Summer 2009
Zhi Tsun, current MD/PhD student, HST Program, Harvard and MIT, Summer 2009

Committees

2003-present, Whitehead Institute Patent Committee
2003-present, Member of numerous thesis committees of MIT Biology Graduate Students
2004-present, Member of several thesis committees of Harvard Medical School Graduate Students
2004-present, Member of RNAi Platform Steering Committee at the Broad Institute
2005-present, Co-director with Michael Yaffe of the Cell Circuits Steering Committee at the Broad
2005-present, Member Broad Metabolism Group
Spring 2003, Member of MIT Biology Faculty Search Committee chaired by Robert Horvitz
Spring 2004, Member of MIT Biology Faculty Search Committee chaired by Robert Horvitz
Spring 2005, Member of MIT Biology Faculty Search Committee chaired by Robert Horvitz
Spring 2006, Member of Whitehead/MIT Biology Faculty Search Committee chaired by Hidde Ploegh,
Spring 2007, Member of MIT Center for Cancer Research Faculty Search chaired by Jackie Lees
Spring 2009, Member of MIT Center for Cancer Research Faculty Search chaired by Philip Sharp

Prelim Exam Committees (MIT)

Yasemin Sancak, Shomit Sengupta, Cindy Nielson, Gordon Lu, Ed Van Veen, Tamer Onder, Stacie Bumgarner, Brendan Kiburz, Sara Fenske, Tim Peterson, Kyle Farh, Giselle Roman, Mary Ellen Wiltrout, Brian Chin, Seraphim Thornton, Heather Keys, Peggy Hsu, Lina Bird

Thesis Advisory/Defense Committees (MIT)

Siraj Ali, Kuojung Lu, Sara Fenske, Tamar Onder, Kayvan Zainabadi, Piyush Gupta, Sarah Johnstone, Ji Luo, Neil Kumar, Drew Lowery, Seth Berman, Andreas Hochwagon, Honor Hsin, Ji Luo, Kevin Lai, Ray Jones, Oded Shaham, Joseph Kovac

Outside Thesis Advisory/Defense Committees

Joshua Baughman, Harvard University Medical School
Adam Friedman, Harvard University Medical School
Cory Johannessen, Harvard University Medical School
Nick Houstis, HST M.D./Ph.D.
Ji Lou, Harvard University Medical School
Aly Shamji, Harvard University
Scott Vafai, Harvard University Medical School
Jennifer Lee, Harvard University Medical School

Educational Commons

2004-2005, Reader of MIT Biology Graduate Student Application Folders
2005-present, Member of MIT Biology Undergraduate Teaching Committee chaired by Hazel Sive
2006-present, Member of MIT Biology Graduate Student Admissions Committee
2007, Organizer of Advisory Session for MIT Undergraduates applying to Medical School
2008, Organizer of Advisory Session for MIT Undergraduates applying to Medical School

2009, Organizer of Advisory Session for MIT Undergraduates applying to Medical School

Grant Reviewing

National Cancer Institute Program Project Reviewer 2002 and 2003

National Institute of General Medicine Program Project Reviewer 2003

National Cancer Institute Study Section Reviewer (Cell Signaling and Dynamics, CSD) 2006

National Cancer Institute, Cellular & Tissue Biology P01 Special Emphasis Panel 2009

National Institutes of Health, Challenge Grant Review, Panel 3, 2009

National Institutes of Health, Challenge Grant Review, Panel 6, 2009

Scientific Meetings Organized/Session Chair

May 2001, Fondation des Treilles: *TOR and the Control of Cell Growth*, Tourtour, France. Co-organized with Michael Hall, Biozentrum, Basel, Switzerland

December 2003, ASCB: *Cell Size/Shape Minisymposium*, San Francisco, CA. Co-organized with Judith Kimble, University of Wisconsin

April 2005, Keystone Meeting: *Systems and Biology*. Co-organized with Marc Vidal and Albert-Laszlo Barabasi

May 2005, Fondation des Treilles: *Cell Size and Shape*, Tourtour, France. Co-organized with Michael Hall, Biozentrum, Basel, Switzerland.

June 2008, Fondation des Treilles: *Cell Growth and TOR Pathway*, Les Treilles, France. Co-organized with Michael Hall, Biozentrum, Basel, Switzerland.

Peer Review of Manuscripts for:

BMC Cancer, Cancer Cell, Cancer Research, Cell, Cell Metabolism, Cell Stem Cell, Current Biology, Developmental Cell, EMBO, EMBO Reports, Genes & Development, Journal of Cell Biology, Journal of Physiology, Molecular Cell, Molecular and Cellular Biology, Molecular Pharmacology, PNAS, Nature, Nature Cell Biology, Nature Chemical Biology, Nature Genetics, Nature Medicine, Nature Methods, Nature Protocols, Nature Reviews Drug Discovery, Nucleic Acids Research, PLoS Biology, PLoS Medicine, Science, Science Signaling

Additional Professional Activities

2002-2004, Member of Scientific Advisory Board, Akceli, Inc.

2002-2005, Member of Scientific Advisory Board, Agencourt Biosciences, Inc.

2003, Member of Gene Expression Advisory Board, Wyeth/GI Research

2005-2008, Scientific Advisor for Cell Signaling Technologies

2004-present, Expert witness on the use of rapamycin in drug eluting stents, Johnson & Johnson

2007-present, Member of Scientific Advisory Board, Cellzome, Inc.

2008-present, Member of Scientific Advisory Board, Agios Pharmaceuticals, Inc.

2008-present, Member of Scientific Advisory Board, 3V Biosciences, Inc.

2009 – present, Member of Scientific Advisory Board, LabLife, Inc.